Rules/Formulas

Local Sidereal Time = Right Ascension on the Meridian

Local Sidereal Time = Local Hour Angle of Object + Right Ascension of Object
LST = LHA(obj) +RA(obj)

Local Sidereal Time = Local Hour Angle of Vernal Equinox
LST = LHA(VE)

Latitude = Altitude of North Celestial Pole
Lat = Alt of NCP

Latitude = Zenith Distance of Celestial Equator (at Meridian)

Latitude = Declination + Zenith Distance of Transiting Object
Lat = Dec + ZD. Zenith Distance is taken as positive when measured south along the meridian, negative when measured toward north.

Zenith Distance + Altitude = 90°
ZD = Alt + 90°

Longitude = Local Sidereal Time – Greenwich Sidereal Time
Long = LST – GST

Longitude = Local Mean Solar Time – Greenwich Mean Solar Time
Long = LMT – GMT

Local Mean Solar Time = Local Hour Angle of the Sun + 12 hours
LMT = LHA(sun) +12h

Standard Time = LMT + longitude correction. Longitude correction is taken as + when West (clockwise) of Greenwich, - when East (ccw).

Right Ascension of Sun = Months since March 21 times 2

Declination of Sun = 0° at both Equinoxes; 23.5°N at Summer Solstice; 23.5°S at Winter Solstice